

REMARKS

Claims 12, 17, 18, 20, 22, 24, 26, 28, 30, and 32 are pending in this application.

I. Rejections Under §103(a)

**A. Rejection Over Noguchi, Slykhouse,
and Kitano, as evidenced by Matsumoto**

The Office Action rejects claims 12, 17, 20, 22, 24, 26, 28 and 32 under 35 U.S.C. §103(a) as having been obvious over U.S. Patent Application Publication No. 2003/0143370 to Noguchi et al. (hereinafter "Noguchi") in view of U.S. Patent No. 3,773,573 to Slykhouse and U.S. Patent No. 5,861,214 to Kitano et al. (hereinafter "Kitano"), as evidenced by product data for Matsumoto Microsphere F series foamed resins (hereinafter "Matsumoto"). The rejection is respectfully traversed.

Noguchi fails to disclose and would not have rendered obvious "as the foamed resin, there is used a material in which the weight of a gas included in the foamed resin when stored at 40°C for 4 weeks is 8% to 12% of the weight of the foamed resin and in which a weight decrease ratio of the gas included in the foamed resin when stored at 40°C for 4 weeks is 30% or less with respect to the weight of the gas before stored," as recited in claim 1. The Office Action acknowledges that Noguchi fails to disclose details about the foamed resin. However, the Office Action asserts that Slykhouse cures the deficiencies of Noguchi.

Slykhouse fails to cure the deficiencies of Noguchi. The Office Action asserts that Slykhouse discloses the recited feature of "a material in which the weight of a gas included in the foamed resin ...is 8% to 12% (11%) of the weight of the foamed resin" by disclosing the incorporation of 10-25 parts by weight of a liquid (isobutane). However, Slykhouse does not disclose the use of a material containing a gas. Instead, the isobutane of Slykhouse is a liquid, not a gas.

Additionally, the Office Action's basis for the combination of Slykhouse with Noguchi and Kitano is in error. First, the Office Action asserts that Slykhouse discloses a gas content of 10-25% (col. 3, line 53) that is suitable for use in 2-200 μm diameter foamed resin spheres made of methyl methacrylate-acrylonitrile copolymer comprising 10-90% acrylonitrile (col. 3, lines 26-29 and 64-66). However, as argued above, Slykhouse does not disclose a content of gas but instead discloses a content of isobutane liquid. Additionally, with respect to the weight percent of isobutane, the Office Action's assertion that such a weight percent is used with respect to foamed resin spheres made of methyl methacrylate-acrylonitrile copolymer comprising 10-90% acrylonitrile is in error. The disclosure of Slykhouse states that the weight percent of isobutane is used specifically with a copolymer comprising 10-35 weight% acrylonitrile or preferably, 25-35% acrylonitrile (col. 3, lines 40-53), which is outside the currently claimed range of 60 wt% or more.

Second, the Office Action's assertion that it would have been obvious to a skilled artisan to combine Slykhouse with Noguchi and Kitano because Slykhouse teaches the predictable improvement of the distribution of discrete gas bubbles is in error. The Office Action asserts that Slykhouse's method of using a foamed resin to "improve the distribution of discrete gas bubbles" (Slykhouse, at col. 1, lines 56-64) in a material would inherently result in the distribution of "pores" throughout the material, and therefore inherently improve the porosity of Noguchi. However, as previously argued in the February 1, 2010 Request for Reconsideration, inherency requires "necessity," and not merely "possibility."

Specifically, one of ordinary skill in the art understands porosity as the percentage of volume of a solid taken up by voids within the solid, i.e., ratio of the total amount of empty space to the total amount of filled space. As such, the Office Action's assertion of increased dispersion of pore forming material, which creates the empty space, should not affect the total volume of pore forming material added. Increased dispersion merely affects the locations of

the empty space, but does not increase the quantity of pore forming material used. Further, it has not been shown that improving the dispersion of gas bubbles would necessarily increase or improve the porosity in Noguchi, as alleged by the Office Action, because it does not necessarily increase the total amount of empty space. Therefore, Slykhouse fails to cures the deficiencies of Noguchi and the combination of Slykhouse with Noguchi and Kitano is improper.

For at least these reasons, claim 12 is patentable over Noguchi, Slykhouse, Kitano, and Matsumoto, alone or in combination. Further, claims 17, 20, 22, 24, 26, 28, and 32 are patentable for at least the same reasons, as well as for the additional features recited therein. Accordingly, Applicants respectfully request withdrawal of the rejection.

**B. Rejection Over Noguchi, Slykhouse, Kitano,
as evidenced by Matsumoto, Ahmed, and Gehlsen**

The Office Action rejects claim 18 under 35 U.S.C. §103(a) as having been obvious over Noguchi in view of Slykhouse and Kitano, as evidenced by Matsumoto, and further in view of "Comparative Disposition of Acrylonitrile and Methacrylonitrile: Quantitative Whole-Body Autoradiographic Studies in Rats" by Ahmed et al. (hereinafter "Ahmed") and U.S. Patent No. 6,103,152 to Gehlsen et al. (hereinafter "Gehlsen"). The rejection is respectfully traversed.

Ahmed and Gehlsen do not cure the deficiencies of Noguchi, Slykhouse, Kitano, and Matsumoto, with respect to claim 1. Further, claim 18 is patentable for at least the same reasons as claim 1, from which it depends, as well as for the additional features recited therein. Accordingly, Applicants respectfully request withdrawal of the rejection.

**C. Rejection Over Noguchi, Slykhouse,
Kitano, Nagata, as evidenced by Matsumoto**

The Office Action rejects claim 30 under 35 U.S.C. §103(a) as having been obvious over Noguchi in view of Slykhouse and Kitano, as evidence by Matsumoto, and further in

view of U.S. Patent No. 6,440,185 to Nagata et al. (hereinafter "Nagata"). The rejection is respectfully traversed.

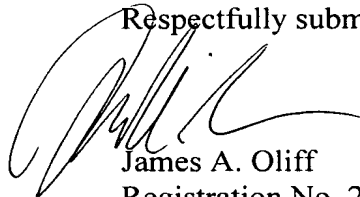
Nagata does not cure the deficiencies of Noguchi, Slykhouse, Kitano, and Matsumoto, with respect to claim 1. Further, claim 30 is patentable for at least the same reasons as claim 1, from which it depends, as well as for the additional features recited therein. Accordingly, Applicants respectfully request withdrawal of the rejection.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Michelle K. Windom
Registration No. 65,466

JAO:MQW/hs

Date: May 17, 2011

OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

**DEPOSIT ACCOUNT USE
AUTHORIZATION**

Please grant any extension
necessary for entry of this filing;
Charge any fee due to our
Deposit Account No. 15-0461